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**DAVID W. WARE**

MANAGER, CODES & REGULATION
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November 4, 2002

Commissioner Robert Pernel
Commissioner Art Rosenfeld
Energy Efficiency Committee

Bill Pennington

California Energy Commission
1516 Ninth Street
Sacramento, Ca 95814-5512

RE: COMMENTS ON 2005 BUILDING ENERGY EFFICIENCY STANDARDS;
NOVEMBER 5TH STAFF WORKSHOP; *Draft 2005 Efficiency Standards for
Residential and Nonresidential Buildings, and Draft 2005 Residential ACM Manual*

Dear Commissioners and Bill Pennington:

Please accept these comments and suggestions I have regarding the proposed changes to the Efficiency Standards and the Residential ACM Manual. It's been a long arduous process for everyone and I believe staff's draft proposal is reasonably fair given the differing views on many items. Nevertheless, there are several items I believe are worthy to note:

Draft Energy Efficiency Standards—

- Page 134: Section 150, Residential Mandatory Features and Devices; (m) 1 duct R-value requirement:

The R4.2 requirement referenced in this section is inconsistent with the proposed nonresidential duct R-value requirement of R8 listed on page 70, Section 124. It is much easier to enforce a single R-value requirement across all climate zones than multiple requirements, particularly when the consultant's report comparing the life-cycle energy cost savings for different duct R-values showed R8 to be cost effective in nearly all climate zones.¹ There's great value to factoring in the ease of enforceability than to land strictly on the results of the life cycle cost analysis. I recommend changing this requirement to R8.

¹ Part III, Measure Analysis and Life-Cycle Cost, July 2, 2002; Eley Associates

- Page 141-142: Section 151(f) Prescriptive Standards/Alternative Component Packages; 10 space conditioning ducts:

Same comment as above.

- Page 149-151: Tables 151 G-I, Alternative Component Packages; climate zones 6, 7, 8:

Same comment as above. Recommend including R8 duct requirement.

Draft Residential ACM Manual—

- Page 64: 4.2.2 Insulation Installation Quality:

It is difficult to support the proposed modeling adjustment factors for determining the standard and proposed design budgets for “standard envelope construction” and “envelope construction quality” without viewing the impact of these changes. I request staff provide the results of these proposed modeling changes.

More importantly, I cannot support this concept as it clearly implies that the majority of all construction in the state is not meeting the quality of construction necessary to be in compliance and intent of the CEC’s energy code. Information and photos I have sent the Commission of installed insulation from throughout the state clearly shows the assumption underlying this proposal to be erroneous. Staff seems more enamored with providing another compliance modeling option, one burden with increased cost and time to the builder and consumer, than for encouraging better and more long-term construction quality of standard practice.

- Page 80: 4.19 Duct Efficiency:

Recommend changing the reference insulation level of ducts to R8 for the same reasons as stated above.

- Page 1: ACM RQ 2005—High Quality Insulation Installation Procedures; RQ2, Terminology, Draft Stops:

This definition could be confused with the CBC definition used by code officials to ward against the spread of fire and hot gasses within a building. The reference to “fire stops” also incorrectly identifies mineral fiber insulation in the application and should be deleted. “Fire stops” as defined and used in the CBC applies to material used in penetrations of hourly-rated assemblies to resist the spread of fire and smoke. By definition, mineral fiber insulation is neither a draft stop nor fire stop, but the context being discussed is incorrect. I recommend describing this situation as being part of the “air barrier.” In this context, insulation must be in contact with the air barrier but cannot be considered to be the “air barrier” per se unless rigid foam insulation is being used.

- Page 3: ACM RQ 2005—High Quality Insulation Installation Procedures; RQ4.3.6, Loose Fill Wall Insulation:

Installers must provide at least three density measurements from throughout the building's wall area to insure the initial installation is correct and the stated R-value is representative of the installation. One measurement, as is proposed, does not insure any quality at all.

- Page 5: ACM RQ 2005—High Quality Insulation Installation Procedures; RQ5.2, Blown-In Ceiling Insulation:

Attic rulers must show depth “and installed R-value” in order to be useful. In order for the rulers to be useful to site inspectors, HERS raters, and consumers they must show the installed R-value.

Installers must provide at least three density measurements from throughout the ceiling area to insure the initial installation is correct and the stated R-value is representative of the installation. One measurement, as is proposed, does not insure any quality at all.

- Page 7: ACM RQ 2005—High Quality Insulation Installation Procedures; CF6-R and CF4-R Insulation Installation Quality Certificate; 3 Ceiling Preparation:

Delete reference to “draft stops” and replace with “air barrier.”

- Page 8: ACM RQ 2005—High Quality Insulation Installation Procedures; CF6-R and CF4-R Insulation Installation Quality Certificate; 5 Ceiling Blown-In:

Attic rulers must show depth “and installed R-value” in order to be useful. In order for the rulers to be useful to site inspectors, HERS raters, and consumers they must show the installed R-value.

Sincerely,



David W. Ware
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Western Region